

## PIPUNCULIDAE (INSECTA: DIPTERA) OF THE DOMINICAN REPUBLIC: NEW RECORDS AND DESCRIPTION OF NEW SPECIES

J. A. RAFAEL<sup>1,2</sup>

## ABSTRACT

The Pipunculidae of the Dominican Republic are reviewed. Keys to genera, subgenera, and species of West Indies Pipunculidae are presented with notes on geographical distribution. Seventeen species in seven genera of Pipunculidae are reported from the Dominican Republic. Eight new species are described and illustrated: *Cephalosphaera insularis*, *Cephalops pedernalensis*, *Eudorylas curvicaudatus*, *E. dominicanensis*, *Metadorylas antillensis*, *M. cornutus*, *M. pilosus*, and *M. youngi*. All Neotropical species of the *Cephalops latifrons* (Hardy) group are transferred to the genus *Microcephalops* De Meyer as new combinations: *M. inermus* (Hardy), *M. latifrons* (Hardy), *M. ravidateralis* (Hardy), *M. transversalis* (Rafael), and *M. williamsi* (Hardy). Eight species are recorded from the Dominican Republic for the first time: *Basileunculus aliceae* Rafael, *Cephalops varius stygius* (Hardy), *Metadorylas cressoni* Johnson, *M. dominicensis* Scarbrough and Knutson, *Microcephalops latifrons* (Hardy), *M. williamsi* (Hardy), *Tomosvaryella mexicanensis* Ale-Rocha and Rafael, and *T. tuberculata* Hardy. The previously unknown male of *Cephalosphaera mocaensis* Hardy and *Microcephalops latifrons* (Hardy) are described for the first time.

## INTRODUCTION

Pipunculidae is a poorly represented family in the Dominican Republic fauna. The only previously recorded species is *Cephalosphaera mocaensis* Hardy, based on a single female specimen (Rafael, 1992). The opportunity to study recently collected material in the collections of the Carnegie Museum of Natural History (CMNH) revealed eight undescribed species, and new distribution records for eight species for that country. It is hoped that this contribution will stimulate interest in collecting and studying this fascinating, though poorly collected, family from the Dominican Republic and elsewhere.

Most of the available studied specimens were collected in July, with a few from October and December. Those collected late in the season represented taxa different from those collected in July. It is inevitable that additional species and records will be found when more collections are made in other seasons.

The material studied was taken from intercept traps, light traps, and sweep samples. Genitalia were studied by removing the abdomen, after which it was placed in a microvial with glycerin and pinned along with the specimen. Taxonomic keys including geographical distribution records for the New World were compiled for all the species studied from the West Indies. Primary types are deposited in the collections of CMNH, and representative paratypes and other specimens have been deposited at the Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil (INPA).

The generic classifications adopted here follows Rafael and De Meyer (1992). Since the pipunculid fauna of the Dominican Republic and of other islands in the West Indies is still largely unknown, it is premature to conduct a zoogeographic

<sup>1</sup> Instituto Nacional de Pesquisas da Amazônia (INPA), Caixa Postal 478, 69011-970, Manaus, Amazonas, Brazil.

<sup>2</sup> Fellow of the Conselho Nacional de Desenvolvimento Científico e Tecnológico.  
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and phylogenetic study at the present time. The following is primarily a taxonomic study and should provide a foundation for future systematic research.

KEY TO GENERA AND SUBGENERA OF PIPUNCULIDAE FROM THE WEST INDIES

(Genera not recorded, but of probable occurrence in the West Indies, are also included)

- |         |   |   |    |
|---------|---|---|----|
| 1       | Ocellar bristles present; head hemispherical; postcranium narrow; veins M and dm—cu absent . . . . .  | <i>Chalarus</i> Walker                  |    |
| 1'      | Ocellar bristles absent; head nearly spherical; postcranium swollen; wing venation complete . . . . .   |   | 2  |
| 2(1')   | Proepisternum with fan-like tuft of hairs . . . . .   |   | 3  |
| 2'      | Proepisternum without fan-like tuft of hairs . . . . .  |   | 9  |
| 3(2)    | Scutum with conspicuous pilosity anteriorly, dorsocentral hairs not differentiated . . . . .  |   | 4  |
| 3'      | Scutum without pilosity between rows of dorsocentral hairs . . . . .  |   | 5  |
| 4(3)    | Vein M <sub>2</sub> absent . . . . .  | <i>Pipunculus</i> Latreille             |    |
| 4'      | Vein M <sub>2</sub> present . . . . .   | <i>Parapipunculus</i> Rafael            |    |
| 5(3')   | Vein M <sub>2</sub> present . . . . .   | <i>Cephalosphaera</i> Enderlein         | 6  |
| 5'      | Vein M <sub>2</sub> absent . . . . .  |   | 7  |
| 6(5)    | Male abdominal sytergosternite VIII with membranous area reaching epandrium . . . . .   | <i>C. (Neocephalosphaera)</i> Enderlein |    |
| 6'      | Male abdominal sytergosternite VIII with membranous area not reaching epandrium . . . . .   | <i>C. (Cephalosphaera)</i> De Meyer     |    |
| 7(5')   | Face equal or subequal in width to lower portion of frons; frons not inflated; flagellum distinctly larger than pedicel . . . . .               | <i>Cephalops</i> Fallén                 | 8  |
| 7'      | Face narrower than lower portion of frons; frons inflated; flagellum small, slightly larger than pedicel . . . . .                              | <i>Microcephalops</i> De Meyer          |    |
| 8(7)    | Male abdominal sytergosternite VIII with membranous area reaching epandrium; abdomen broad and shortened . . . . .                              | <i>C. (Semicephalops)</i> De Meyer      |    |
| 8'      | Male abdominal sytergosternite VIII with membranous area apical; abdomen elongate . . . . .   | <i>C. (Cephalops)</i> Fallén            |    |
| 9(2')   | Pterostigma absent; third section of costa shorter or equal in length to fourth section of costa . . . . .                                      |   | 10 |
| 9'      | Pterostigma present; third section of costa longer than fourth section of costa . . . . .   |   | 11 |
| 10(9)   | Crossvein r—m located near base of cell dm; abdomen clavate . . . . .   | <i>Dorylomorpha</i> Aczél               |    |
| 10'     | Crossvein r—m located near middle of cell dm; abdomen cylindrical . . . . .   | <i>Tomosvaryella</i> Aczél              |    |
| 11(9')  | Tergite VI visible dorsally in males . . . . .  |   | 12 |
| 11'     | Tergite VI not visible dorsally in males . . . . .  |   | 13 |
| 12(11)  | Apex of flagellum obtuse below; ventral ctenidia present on mesofemur only; tergites with oblique gray pruinose spot posterolaterally . . . . . | <i>Etmohardyia</i> Rafael               |    |
| 12'     | Apex of flagellum acuminate to subfiliform; ventral ctenidia present on profemur and mesofemur; tergites without gray pruinose spots . . . . .  | <i>Metadorylas</i> Rafael               |    |
| 13(11') | Pedicel with many long hairs; abdomen with conspicuous hairs laterally . . . . .  |   | 14 |
| 13'     | Pedicel with a few short hairs; abdomen with small inconspicuous hairs . . . . .  | <i>Eudorylas</i> Aczél                  |    |
| 14(13)  | Distal section of vein M <sub>1</sub> straight; aedeagus trifid . . . . .   | <i>Allomethus</i> Hardy                 |    |
| 14'     | Distal section of vein M <sub>1</sub> curved; aedeagus simple and heavily sclerotized . . . . .   | <i>Basileunculus</i> Rafael             |    |

SYSTEMATIC ACCOUNTS

Genus *Chalarus* Walker

This genus is cosmopolitan in distribution but has not been recorded from the Dominican Republic. Two species of *Chalarus* have previously been recorded

from Trinidad (Rafael, 1990a). A third species, *C. spurius* (Fallén) was recorded from Dominica by Scarbrough and Knutson (1989) based on a female specimen. Further studies (Rafael, 1988a, 1990a; Jervis, 1992) indicated that *C. spurius* represents a species complex of six species, and is restricted to Europe in distribution. Records from the New World and other regions (Afrotropical, Palaearctic, Oriental, and Australian) are questionable and therefore this species was not included in the following key.

#### Key to Species of *Chalarus* from the West Indies

1. Cell  $r_1$  closed (Trinidad, Brazil) ..... *C. connexus* Rafael  
 1' Cell  $r_1$  open (Trinidad, Brazil) ..... *C. amazonensis* Rafael

#### Genus *Cephalosphaera* Enderlein

*Cephalosphaera* is cosmopolitan in distribution. Recently it was divided by De Meyer (1994) into two subgenera: *Cephalosphaera* sensu stricto Enderlein and *Neocephalosphaera* De Meyer. Both are widespread from Canada to Chile in the New World.

#### Key to Species of *Cephalosphaera* from the West Indies

- 1 Femora yellow to chestnut, sometimes with brown discoloration (Jamaica, Dominican Republic) ..... *C. insularis*, new species  
 1' Femora dark brown to black, with bases and apices yellow ..... 2  
 2(1') Flagellum yellow, pedicel brown; sytergosternite VIII not divided by membranous area; aedeagus short (Dominican Republic) ..... *C. mocaensis* (Hardy)  
 2' Flagellum and pedicel brown to black; sytergosternite VIII divided by membranous area on the dorsum and the venter; aedeagus long, spiraled (Jamaica) . . . *C. jamaicensis* (Johnson)

#### *Cephalosphaera* (*Cephalosphaera*) *mocaensis* (Hardy) (Fig. 1–6)

*Dorilas* (*Cephalosphaera*) *mocaensis* Hardy, 1948b:127, fig. 4a, b.

*Description*.—Male: frons and face silvery gray pruinose. Antennae with scape and pedicel dark brown to black; flagellum yellow, long and acute (Fig. 1). Thorax dark brown to black, gray-brown pruinose on the dorsum and gray pruinose on sides. Postpronotal lobe brownish yellow on margins. Propleural fan well developed. Legs with coxae black, trochanters yellow, femora black with base and apex yellow, tibiae and tarsi yellow, except metatarsomeres brown. Wings with third costal section twice as long as fourth and equal in length to fifth. Crossvein r–m located between basal third and basal two-fifths of cell dm. Halteres yellow. Abdomen dark brown to black, brown pruinose, velvety black on bases of tergites III–V and gray pruinose in dorsal view on tergite I and posterolaterally on tergites II–V; gray pruinosity larger on tergite V. Terminalia with apical membranous area on sytergosternite VIII. Surstyli symmetrical (Fig. 2). Parameres and aedeagus as in Fig. 3, 4.

*Specimens Examined*.—DOMINICAN REPUBLIC: Pedernales, 26 km N Cabo Rojo, 18–06N 71–38W, 730 m, 13–25 July 1990, L. Masner, J. Rawlins, C. Young, deciduous forest, intercept trap (two males, two females, one female without vein  $M_2$ ); 13–20 July 1990 (one male, one female, INPA); Pedernales, 7 km NE Los Arroyos, 1870 m, 18–16N 71–44W, 15 July 1990, L. Masner, J. Rawlins, C. Young, intercept trap (four females, two females without vein  $M_2$ ); Pedernales, 23.5 km N Cabo Rojo, 18–06N 71–38W, 540 m, 19–25 July 1990, L. Masner, J. Rawlins, C. Young, deciduous forest, intercept trap (one male); 19–21 July 1990 (two males, two females); Pedernales, 26 km N Cabo Rojo, 18–06N 71–38W, 730 m, 26–27 September 1991, R. Davidson, C. Young, S. Thompson, J. Rawlins, wet deciduous forest (one female, INPA, without vein  $M_2$ ); Pedernales, 5 km NE Los Arroyos, 18–15N 71–45W, 1680 m, 17–18 July 1990, C. Young, J. Rawlins, S. Thompson (one male, INPA); Pedernales, La Abeja, 38 km NNW Cabo Rojo, 18–09N 71–38W, 1250 m, 15 July 1987, J. Rawlins, R. Davidson (one male, INPA); Independencia, 32 km NW La Descubierta, Sierra de Neiba, 1850 m, 1–5 Dec. 1991, L. Masner, S. Peck, mountain forest, Malaise trap (one male, INPA); Bara-



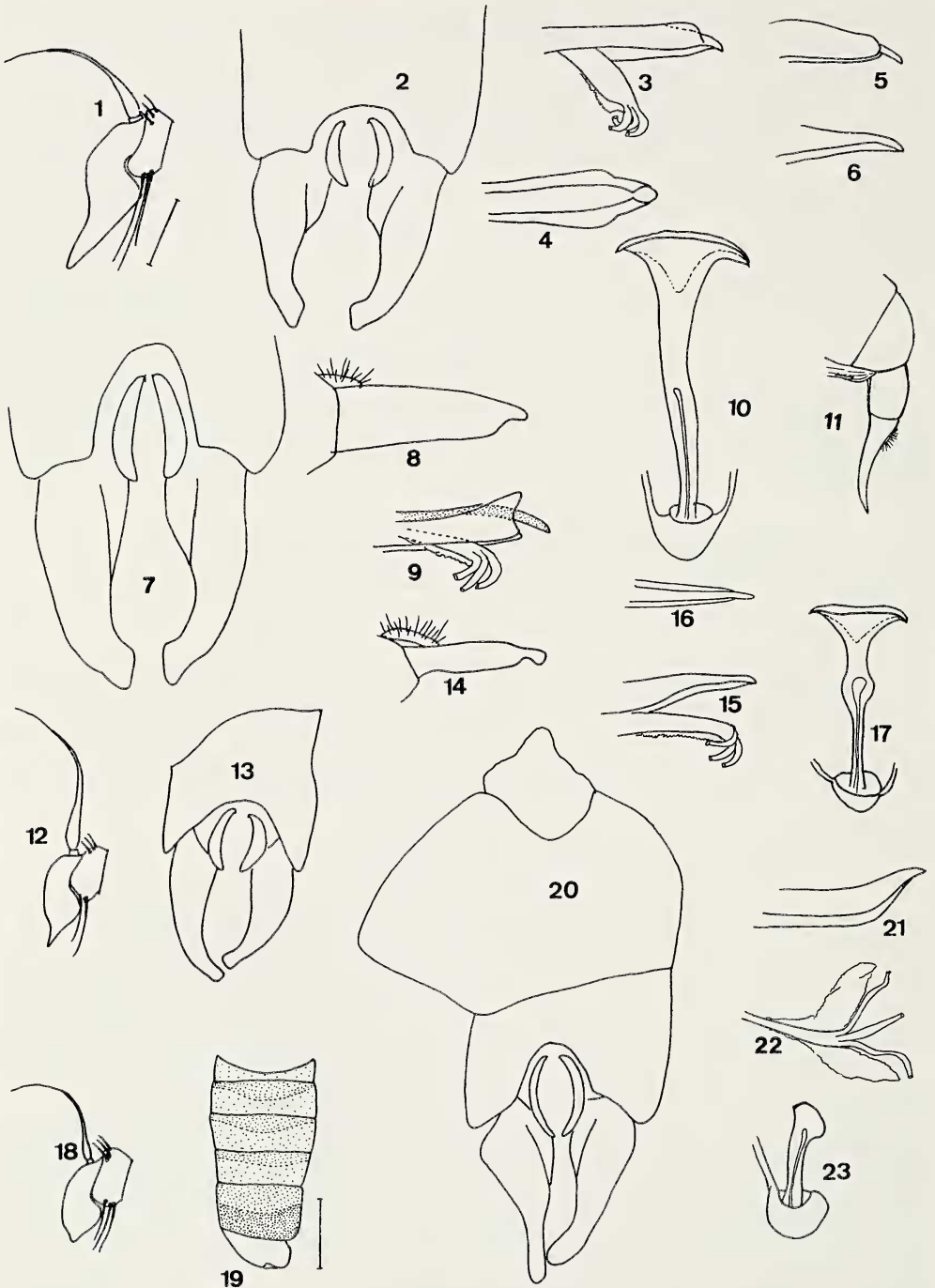


Fig. 1-23.—Pipunculidae from the Dominican Republic. 1-6. *Cephalosphaera mocaensis*, male: 1, antenna; 2, surstyli; 3, parameres and aedeagus; 4, parameres, ventral view; 5-6, parameres (variation). 7-11. *Cephalosphaera insularis*, 7, surstyli; 8, inner surstylus, lateral view; 9, parameres and aedeagus; 10, ejaculatory apodeme; 11, ovipositor. 12-17. *Cephalops pedernalensis*, male: 12, antenna; 13,



hona, 5 km SE Polo, slopes of Loma La Torre, 18–03N 71–16W, 16 July 1992, disturbed forest with coffee, C. Young, R. Davidson, S. Thompson, J. Rawlins (one male).

*Remarks.*—*Cephalosphaera mocaensis* is the only pipunculid species previously recorded from the Dominican Republic (Hardy, 1966), and the present study shows that it is a frequently collected species. The original description was based on one female specimen, and the following is the first description of the male. This species was previously classified in the subgenus *Neocephalosphaera* by De Meyer (1994). However, based on the male characters pointed out by De Meyer (1994), this species belongs to the subgenus *Cephalosphaera*. *Cephalosphaera mocaensis* is most closely related to *C. incomitata* (Hardy) from Argentina on the basis of characteristics of the male terminalia. It differs from the latter species by the yellow flagellum and by the postpronotal lobe (humeral) being concolorous with scutum. Further study with more specimens from the northern part of South America will likely reveal that *C. incomitata* is a junior synonym of *C. mocaensis*. The male specimens collected from the Dominican Republic show variations in the parameres (Fig. 5, 6). Variation also occurs in wing venation. Vein  $M_2$  is absent from the left wing of one male and from both wings of three females. These three female specimens key to the genus *Cephalops*, but they match the description of *Cephalosphaera mocaensis* in all respects, except the absence of vein  $M_2$ .

*Cephalosphaera (Cephalosphaera) insularis* Rafael, new species  
(Fig. 7–11)

*Diagnosis.*—This species differs from all other *Cephalosphaera* species by the following combination of characters: antennae yellow, scutellum with yellow margin, tergites III–V with narrow velvety black bands across the bases, surstyli symmetrical, forcipate, and parameres with a distinct projection at apex.

*Description.*—Male: body length 4.0 mm; wings 4.7 mm. Antennae yellow; flagellum acutum. Eyes joined on the frons for a distance slightly greater than the length of frontal triangle. Front and face silvery gray pruinose. Thorax dark brown to black, brown pruinose dorsally, gray pruinose laterally. Postpronotal lobes yellow. Scutellum yellow at margin, with long bristles. Propleural fan with long, pale bristles. Legs yellow, except coxae brown, metafemur brown on distal half, and all fifth tarsomeres light brown. All femora with ventral ctenidia. Wings slightly infuscated; pterostigma brown. Third costal section about as long as fourth. Crossvein r–m located near basal one-third of cell dm. Section between cell dm and vein  $M_2$  longer than vein dm–cu. Halteres light yellow. Abdomen dark brown to black, brown pruinose, with gray pruinosity on tergite I and laterally on tergites II–V. When illuminated at a certain angle tergites III–V with narrow interrupted velvety black bands across the bases. Tergite I with 6–8 bristles laterally. Terminalia with syntergosternite VIII about equal length as tergite V and with distal membranous area. Surstyli (Fig. 7, 8) symmetrical, forcipate. Parameres (Fig. 9) with a distinct projection at apex. Ejaculatory apodeme as in Fig. 10. Female: body length 3.6–4.0 mm; wings 4.2–4.5 mm. Frons and face silvery gray pruinose, except frons black near ocellar triangle. Antennae yellow, long, and acute. All coxae brownish yellow. Abdomen brown pruinose, except tergites I and II gray pruinose, the latter with narrow band brown pruinose across posterior margin; tergites III–VI with narrow velvety black band across the bases and gray pruinose on the sides. Other aspects as in male. Terminalia (Fig. 11) with syntergosternite VII + VIII concolorous with abdomen,

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epandrium and surstyli; 14, inner surstylus, lateral view; 15, parameres and aedeagus; 16, parameres, ventral view; 17, ejaculatory apodeme. 18–23. *Microcephalops latifrons*, male: 18, antenna; 19, abdomen; 20, terminalia; 21, parameres; 22, aedeagus; 23 ejaculatory apodeme. All figures to same scale as Fig. 1 (= 0.1 mm), except Fig. 11 and 19 (scale = 0.5 mm).

rather cylindrical dorsally, flattened ventrally; ovipositor bright yellow, curved outward and longer than syntergosternite VII + VIII.

*Type Material*.—Holotype: male (CMNH). Verbatim text of three pin labels: "DOMINICAN REPUBLIC: Pedernales, 26 km N Cabo Rojo, 18–06N 71–38W, 730 m" / "13–25 July 1990, L. Masner, J. Rawlins, C. Young, wet deciduous forest, intercept trap" / "HOLOTYPE *Cephalosphaera insularis* Rafael [red paper]". Paratype: eight males seven females, topotypic, (two males, three females, INPA); JAMAICA: Portland, just east of Hardwar Gap, 22 Aug. 1980, 1100 m, A. Norrbom (one male).

*Etymology*.—The specific name refers to the island locality where the type series was collected (from Latin *insularis* = of an island).

*Remarks*.—*Cephalosphaera insularis* is closely related to *C. panamaensis* (Hardy). It differs by the smaller size, yellow antennae, and scutellum yellow at margin. In the terminalia, it differs by the shape of the parameres (which possess a distinct projection at apex in *insularis* and it is bifid in *panamaensis*) and by the aedeagus (which is short in *insularis* and elongated and with a bifid dorsal projection in *panamaensis*).

#### *Cephalosphaera* spp.

*Remarks*.—Four female specimens cannot be identified to species and were not associated with any males. Two females have ovipositors curved outward and longer than those of *C. panamaensis*; the other two female specimens have straight ovipositors. It is clear that more *Cephalosphaera* species remain to be described from the Dominican Republic.

*Specimens Examined*.—DOMINICAN REPUBLIC: Pedernales, 23.5 km N Cabo Rojo, 18–06N 71–38W, 540 m, 19–25 July 1990, L. Masner, J. Rawlins, C. Young, deciduous forest, intercept trap (three females); Pedernales, La Abeja, 38 km NNW Cabo Rojo, 18–09N 71–38W, 1250 m, 15 July 1987, J. Rawlins, R. Davidson (one female).

#### Genus *Cephalops* Fallén

*Cephalops* is a cosmopolitan genus and has a wide distribution in the New World, ranging from Canada to Chile. Recently the genus *Cephalops* was separated by De Meyer (1994) into four subgenera: *Cephalops* sensu stricto Fallén, *Semicephalops* De Meyer, *Parabeckerias* De Meyer, and *Beckerias* Aczél. The last two subgenera are not recorded in the New World.

#### Key to Species of *Cephalops* from the West Indies

- 1 Flagellum dark brown to black; crossvein r–m located at basal third of cell dm; third section of costa twice as long as fourth; surstyli equal to or longer than epandrium (Dominican Republic) . . . . . *C. pedernalensis*, new species  
 1' Flagellum yellow; crossvein r–m located near middle of cell dm; third section of costa subequal to fourth; surstyli shorter than epandrium (Jamaica, Dominican Republic) . . . . .  
 . . . . . *C. varius stygius* (Hardy)

#### *Cephalops (Cephalops) pedernalensis* Rafael, new species (Fig. 12–17)

*Diagnosis*.—This species differs from other described species of *Cephalops* by the predominantly brown to black antennae and legs, short acute flagellum, and

crossvein r-m at basal third of cell dm. Surstyli are forcipate, subsymmetrical, both curved inward, with the outer one slightly shorter than inner one.

*Description.*—(Male only, female unknown.) Body length 3.1 mm; wings 3.5 mm. Frons brown pruinose. Face gray pruinose. Antennae dark brown; flagellum acute (Fig. 12), light brown at margin. Thorax dark brown to black, brown pruinose dorsally, gray pruinose laterally. Propleural fan with five white bristles. Legs predominantly black with trochanters, apex of femora, base and apex of tibiae, and basal tarsomeres yellow. All femora with ventral ctenidia. Wings slightly infuscated; pterostigma brown. Third costal section two times longer than fourth and as long as fifth section. Halteres white, slightly yellow at apex. Abdomen dark brown to black, brown pruinose, with gray pruinosity posterolaterally; when illuminated at a certain angle, tergites II-V show velvety black bands across bases. Terminalia: syntergosternite VIII with apical membranous area. Surstyli subsymmetrical, curved inward (Fig. 13, 14). Parameres and aedeagus as in Fig. 15, 16. Ejaculatory apodeme as in Fig. 17.

*Type Material.*—Holotype: male (CMNH). Verbatim text of three pin labels: "DOMINICAN REPUBLIC: Pedernales, 23.5 km N Cabo Rojo, 18-06N 71-38W" / "26-27 September 1991 J. Rawlins, R. Davidson, C. Young, S. Thompson, Wet deciduous forest" / "HOLOTYPE *Cephalops pedernalensis* Rafael [red paper]." Paratype: one male, Pedernales, La Abeja, 38 km NNW Cabo Rojo, 18-09N 71-38W, 1250m, 15 July 1987, J. Rawlins, R. Davidson (INPA).

*Etymology.*—The species name refers to the locality Pedernales where the type series was collected.

*Remarks.*—This species is being treated in the subgenus *C.* (*Cephalops*) Fallén by the presence of one or more erected spines on the metatibiae median anteriorly and with membranous area not reaching the epandrium. Following the key of Rafael (1991), specimens of this species will run to couplet 16 for *C. pauculus* and *C. penepauculus*, described from Brazil and Argentina respectively. The new species clearly shows characteristics of *Cephalosphaera* species in the terminalia and it could well belong to this genus instead of *Cephalops*. Both of these genera are morphologically very closely related sister groups within the same monophyletic lineage (Rafael and De Meyer, 1992), and the character vein  $M_2$  has been considered as the only character to separate the two genera. Since this character is invalidated to date, *pedernalensis* is being treated in the genus *Cephalops*. This should be further studied to clarify the status of these two genera.

### *Cephalops (Semicephalops) varius stygius* (Hardy)

*Dorilas (Dorilas) stygius* Hardy, 1948a:5, fig. 4a-c.

*Remarks.*—*Cephalops varius stygius* possesses the apomorphic characteristic, the membranous area reaching the epandrium, stated by De Meyer (1994) for the subgenus *Semicephalops* De Meyer. *Cephalops stygius* was treated as a subspecies of *varius* with the observation that it might be only a synonym of that species (Rafael, 1991). This is the first record subsequent to its original description from Jamaica.

*Specimens Examined.*—DOMINICAN REPUBLIC: Pedernales, 37 km N Cabo Rojo, 18-09N 71-35W, 1500 m, 11 July 1987, R. Davidson, J. Rawlins (one female); Pedernales, La Abeja, 38 km NNW Cabo Rojo, 18-09N 71-38W, 1250 m, 15 July 1987, J. Rawlins, R. Davidson (one female, INPA); Pedernales, 9.7 km NE Los Arroyos, 18-16N 71-44W, 2070 m, 15-16 July 1990, J. Rawlins, C. Young, L. Masner (one male); Pedernales, 23.5 km N Cabo Rojo, 18-06N 71-38W, 510 m, 19-25 July 1990, L. Masner, J. Rawlins, C. Young, deciduous forest, intercept trap (one female, INPA); Pedernales, 1 km S Los Arroyos, 1125 m, 18-14N 71-45W, 18 Oct. 1991, R. Davidson, C. Young, S. Thompson, J. Rawlins, second growth forest (one female).



*Cephalops* sp.

*Remarks.*—Three female specimens with antennae and legs entirely yellow and abdomen partially yellow cannot be identified to species. No male association can be established with these females.

*Specimens Examined.*—DOMINICAN REPUBLIC: Pedernales, 26 km N Cabo Rojo, 730 m, 18–06N 71–38W, 26–27 Sept. 1991, R. Davidson, C. Young, S. Thompson, J. Rawlins, wet deciduous forest (one female, INPA); Hato Mayor, Parque Los Haitises, 3 km W Cueva de Arena, 19–04N 69–29W, 20 m, 7–9 July 1992, R. Davidson, J. Rawlins, S. Thompson, C. Young, mesic lowland forest (two females).

Genus *Microcephalops* De Meyer

This genus was established recently by De Meyer (1989) to encompass four Nearctic and one Palearctic species of small size, face distinctly narrower than the lower portion of the frons, and the flagellum only slightly larger than pedicel. This genus also contains the following Neotropical species treated in the *Cephalops latifrons* group by Rafael (1991).

- Microcephalops inermus* (Hardy), **new combination**  
 = *Dorilas (Eudorylas) inermus* Hardy, 1954:26  
*Microcephalops latifrons* (Hardy), **new combination**  
 = *Dorilas (Dorilas) latifrons* Hardy, 1948a:1  
*Microcephalops ravilateralis* (Hardy), **new combination**  
 = *Pipunculus (Pipunculus) ravilateralis* Hardy, 1965a:234  
*Microcephalops transversalis* (Rafael), **new combination**  
 = *Pipunculus (Pipunculus) transversalis* Hardy, 1965b:22  
*Microcephalops williamsi* (Hardy), **new combination**  
 = *Dorilas (Dorilas) williamsi* Hardy, 1954:54

Key to Species of *Microcephalops* from the West Indies

- 1 Tergites II–IV velvety dark brown to black, without bands of pruinosity; both surstyli curved inward at apex (Brazil, Colombia, Dominica, Dominican Republic) . . . . . *M. williamsi* (Hardy)  
 1' Tergites II–IV brown pruinose across posterior margin; outer surstylus slightly curved inward at apex (Dominican Republic, Jamaica) . . . . . *M. latifrons* (Hardy)

*Microcephalops latifrons* (Hardy), **new combination**  
(Fig. 18–23)

*Dorilas (Dorilas) latifrons* Hardy, 1948a:1, fig. 1a, b.

*Remarks.*—This species is known from the female and has previously been recorded only from Jamaica. It was recharacterized by Rafael (1991). One male fitting the female description apparently belongs here, and is described below.

*Description.*—Male: body length 3.2 mm; wings 3.7 mm. Frons black, brown pruinose, with a small shining black point medially. Face narrower than frons, slightly gray pruinose. Antennae (Fig. 18) with flagellum short, acute. Abdomen (Fig. 19) dark brown to black, velvety black pruinose across bases of tergites II–V; metallic brown pruinose on tergite I and across posterior margin of tergites II–IV; tergite V sub-shining black on posterior half. In other respects as in female description. Terminalia: syntergosternite VIII with apical membranous area. Surstyli asymmetrical (Fig. 20), outer surstyli curved inward distally. Parameres simple (Fig. 21). Aedeagus trifid (Fig. 22) with pair of membranous projections. Ejaculatory apodeme as in Fig. 23.

*Specimens Examined.*—DOMINICAN REPUBLIC: Pedernales, 37 km N Cabo Rojo, 4 km E La Abeja, 18–10N 71–37W, 1440 m, 13–16 July 1987, R. L. Davidson, J. E. Rawlins (one male); Ped-

ernales, 23.5 km N Cabo Rojo, 18–06N 71–38W, 540 m, 20 July 1990, C. W. Young, J. E. Rawlins, S. Thompson (one female).

*Microcephalops williamsi* (Hardy), **new combination**

*Dorilas* (*Dorilas*) *williamsi* Hardy, 1954:54, fig. 27a–c.

**Remarks.**—This species is widespread across southern Brazil. It is also recorded from Colombia (Rafael, 1991) and Dominica (Scarborough and Knutson, 1989).

**Specimens Examined.**—DOMINICAN REPUBLIC: Pedernales, La Abeja, 38 km NNW Cabo Rojo, 18–09N 71–38W, 1250 m, 15 July 1987, J. Rawlins, R. Davidson (one male); Barahona, 9.2 km NW Paraiso, confluence of Rio Nizao and Rio Coltico, 18–03N 71–12W, 230 m, 9–10 Aug. 1990, J. Rawlins, S. Thompson (one male, INPA).

Genus *Basileunculus* Rafael

*Basileunculus* is a Neotropical genus previously recorded from Brazil, El Salvador, Guyana, Panama, and now the West Indies.

*Basileunculus alicae* Rafael

*Basileunculus alicae* Rafael, 1987:630, fig. 11–13.

**Remarks.**—This species was described by Rafael (1987) from the states of Rio de Janeiro and Paraná in Brazil. The Dominican Republic specimens represent the first record of the species subsequent to its original description. This is also the only species of the genus *Basileunculus* from the material examined. The specimens present differ in the following ways from the original description: frons, face, and mesopleuron rather gray pruinose; tibiae predominantly black with only base and apex yellow.

**Specimens Examined.**—DOMINICAN REPUBLIC: Pedernales, 37 km N Cabo Rojo, 4 km E La Abeja, 18–10N 71–37W, 1440 m, 13–16 July 1987, R. Davidson, J. Rawlins (one male); Pedernales, 26 km N Cabo Rojo, 18–06N 71–38W, 13–25 July 1990, L. Masner, J. Rawlins, C. Young, wet deciduous forest, intercept trap (two males, two females, INPA); Pedernales, 5 km NE Los Arroyos, 18–15N 71–45W, 1680 m, 28 July 1990, C. W. Young, J. E. Rawlins, S. Thompson (one female); Elias Pina, Sierra de Neiba at crest, 5.5 km NNW Angel Feliz, 1800 m, 18–41N 71–47W, 15 Oct. 1991, R. Davidson, C. Young, S. Thompson, J. Rawlins, cloud forest (two males); Independencia, 32 km NW La Descubierta, Sierra de Neiba, 1850 m, 01–05 Dec. 1991, L. Masner, S. Peck, mountain forest, Malaise trap (one male, one female).

Genus *Metadorylas* Rafael

*Metadorylas* is limited to the New World. It is best known in the Neotropical region (Rafael, 1990b), and revisionary studies are needed for the Nearctic region.

Key to Species of *Metadorylas* from the West Indies

- |       |   |                                |
|-------|---|--------------------------------|
| 1     | Abdomen predominantly yellow to rufous (Bahamas, Dominican Republic, Jamaica) . . . . .   |                                |
|       | .....   | <i>M. cressoni</i> (Johnson)   |
| 1'    | Abdomen dark brown to black . . . . .   | 2                              |
| 2(1') | Legs predominantly yellow . . . . .   | 3                              |
| 2'    | At least femora predominantly dark brown to black . . . . .   | 6                              |
| 3(2)  | Antennae predominantly yellow to chestnut-brown . . . . .   | 4                              |
| 3'    | Antennae with scape and pedicel chestnut-brown to black, flagellum yellow . . . . .   | 5                              |
| 4(3)  | Parameres with distinct hairs before the recurved processes located near middle; female syntergosternite globose (Dominican Republic) . . . . . | <i>M. youngi</i> , new species |

- 4' Parameres without hairs and with processes located at apex not recurved; female syntergosternite VII + VIII with deep median groove (Dominican Republic, Dominica) . . . . . *M. dominicensis* Scarbrough and Knutson
- 5(3') Abdomen opaque brown to black, brown pruinose; male with a median tubercle on the inflated sternite VI; parameres with two apical recurved processes (Dominican Republic) . . . . . *M. cornutus*, new species.
- 5' At least tergites III-V shining black, without pruinosity; male sternite VI less inflated and without median tubercle (Mexico, Costa Rica, Grenada, Trinidad, Colombia, Ecuador, Brazil, Argentina) . . . . . *M. spinosus* (Hardy)
- 6(2') Scape and pedicel brown to black, flagellum yellow; parameres without dorsal recurved processes, only with small subapical spines; outer gonopod not developed (Dominican Republic) . . . . . *M. antillensis*, new species
- 6' Antennae predominantly dark brown to black; parameres simple with outer gonopod well developed and densely haired (Dominican Republic) . . . . . *M. pilosus*, new species

*Metadorylas youngi* Rafael, new species

(Fig. 24-29)

*Diagnosis.*—This species differs from all other described *Metadorylas* species by the following: yellow antennae, postpronotal lobes, halteres, legs, epandrium, and surstyli; profemora and mesofemora with ventral ctenidia; protibiae and mesotibiae with posteroventral apical bristle; and parameres simple, long bristled with two subapical, recurved processes dorsally.

*Description.*—Male: body length 3.1 mm; wings 3.7 mm. Antennae yellow, flagellum long, acuminate (Fig. 24). Frons and face gray pruinose. Thorax dark brown to black, brown pruinose dorsally and gray pruinose laterally (mesopleuron and postnotum). Postpronotal lobe yellow. Legs yellow, except fifth tarsomeres brown. Profemora and mesofemora with short ventral ctenidia. Protibiae and mesotibiae with posteroventral bristle. Wings hyaline, except for brown pterostigma; crossvein r-m located near basal one-third of the cell dm; last section of vein  $M_1$  almost straight. Halteres yellow. Abdomen dark brown to black, brown pruinose, except tergite I dorsally and laterally and tergites II-V posterolaterally with gray pruinosity. Terminalia with large membranous area apically on syntergosternite VIII; surstyli (Fig. 25) asymmetrical; parameres and aedeagus as in Fig. 26, 27. Female: body length 3.1 mm; wings 3.6 mm. Frons silvery gray pruinose near antennae, becoming white pruinose dorsally and with a shiny black median ridge extended from ocellar triangle to area of larger eye facets. Posteroventral apical bristles of protibiae and mesotibiae longer than in male. Tergites II-V more dense gray pruinose posterolaterally than in male. Terminalia (Fig. 29) with ovipositor yellow, straight, shorter than syntergosternite VII + VIII.

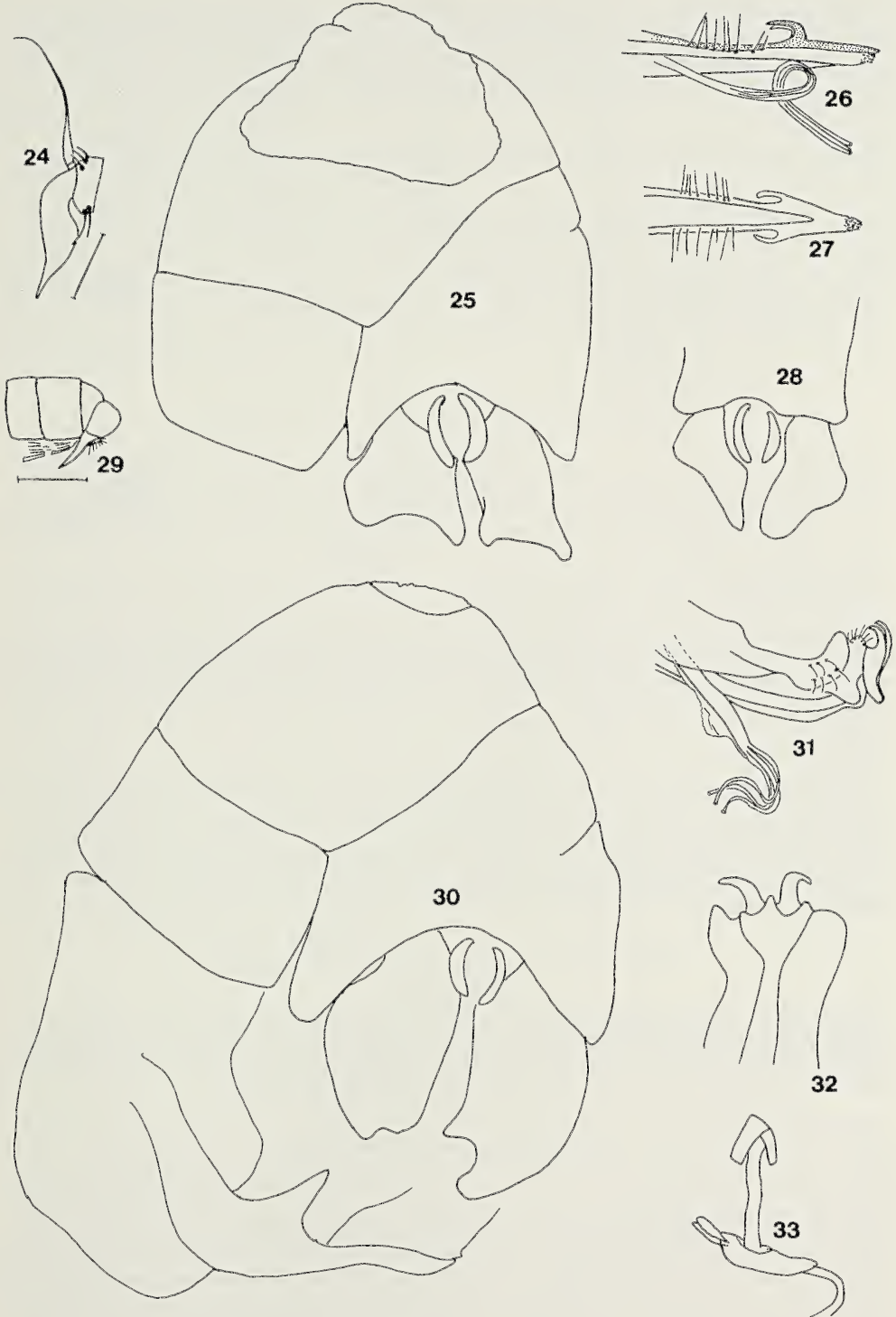
*Type Material.*—Holotype: male (CMNH). Verbatim text of three pin labels: "DOMINICAN REPUBLIC: Pedernales. 26 km N Cabo Rojo. 18-06N 71-38W. 730 m" / "13-25 July 1990 L. Masner, J. Rawlins, C. Young, Wet deciduous forest; intercept trap" / "HOLOTYPE *Metadorylas youngi* Rafael [red paper]." Paratypes: Thirteen males and four females, topotypic, 15 July 1987, J. Rawlins, R. Davidson (three males, one female, INPA); 21 July 1990, L. Masner; 19-25 July 1990, L. Masner, J. Rawlins, C. Young.

*Etymology.*—This species is named in honor of one of the collectors, Dr. Chen W. Young, Carnegie Museum of Natural History.

→

Fig. 24-33.—*Metadorylas* from the Dominican Republic. 24-29. *Metadorylas youngi*, male: 24, antenna; 25, terminalia; 26, parameres and aedeagus; 27, parameres, ventral view; 28, surstyli, variation in a paratype; 29, female terminalia. 30-33. *Metadorylas cornutus*, male: 30, terminalia; 31, parameres and aedeagus; 32, parameres, ventral view; 33, ejaculatory apodeme. All figures to same scale as Fig. 24 (= 0.1 mm), except Fig. 29 (scale = 0.5 mm).





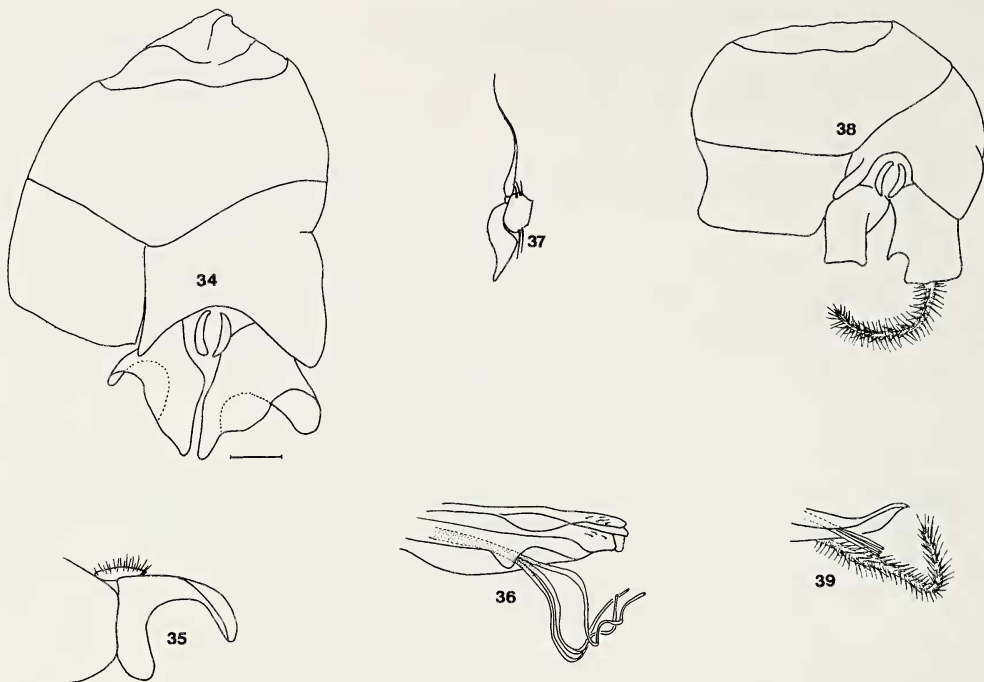


Fig. 34–39.—*Metadorylas* from the Dominican Republic. 34–36. *Metadorylas antillensis*, male: 34, terminalia; 35, inner surstylus, lateral view; 36, parameres and aedeagus. 37–39. *Metadorylas pilosus*, male: 37, antenna; 38, terminalia; 39, parameres and aedeagus, showing outer gonopod. All figures to same scale as Fig. 34 (= 0.1 mm).

*Remarks.*—*Metadorylas youngi* resembles in most respects the description of *M. dominicensis* Scarbrough and Knutson, recently described from Dominica. It can be easily separated from *M. dominicensis* by characters of the terminalia. One male with different surstyli (Fig. 28), one of the most variable characters in pipunculids, belongs here because it has identical aedeagus and parameres.

*Metadorylas cornutus* Rafael, new species  
(Fig. 30–33)

*Diagnosis.*—This species differs from all other *Metadorylas* species by its extremely large sternite VI inflated with a median tubercle, and by its complex parameres, short bristles with two apical recurved processes.

*Description.*—(Male only, female unknown.) Male: Body length 3.8 mm; wings 4.4 mm. Antennae yellow, with scape and pedicel black; flagellum long, acuminate. Frons and face gray pruinose. Thorax dark brown to black, brown pruinose dorsally and gray pruinose laterally (mesopleuron and postnotum). Postpronotal lobe yellow. Legs yellow, except fifth tarsomeres brown. Profemora and mesofemora with short ventral ctenidia. Protibiae and mesotibiae with posteroventral bristle. Wings hyaline, except for brown pterostigma; crossvein r-m located near basal one-third of the cell dm. Halteres yellow. Abdomen dark brown to black, brown pruinose, except tergite I dorsally and laterally and tergites II–V posterolaterally with gray pruinosity. Terminalia (Fig. 30) with sternite VI inflated with median tubercle; sytergosternite VIII with small membranous area; surstyli asymmetrical, the outer with an apical sinus. Parameres and aedeagus as in Fig. 31, 32. Parameres with two recurved processes distally. Ejaculatory apodeme as in Fig. 33.

*Type Material*.—Holotype: male (CMNH). Verbatim text of three pin labels: "DOMINICAN REPUBLIC: Pedernales. 3.3 km NE Los Arroyos. 18–15N 71–45W 1450m" / "16–18 July 1990, L. Masner, J. Rawlins, C. Young, Wet mountain forest, sweep samples" / "HOLOTYPE *Metadorylas cornutus* Rafael [red paper]."

*Etymology*.—The specific name refers to the two recurved processes at the apex of the parameres in male terminalia (from Latin *cornus* = horn).

*Remarks*.—*Metadorylas cornutus* is closely related to the new species *M. youngi* described above. The distinct black scape and pedicel will instantly separate the two species. The male genitalia also provide reliable specific characters. The male of *M. cornutus* has peculiar terminalia with sternite VI inflated with a median tubercle, the outer surstyli with an apical sinus, and the parameres with two recurved apical processes.

*Metadorylas antillensis* Rafael, new species  
(Fig. 34–36)

*Diagnosis*.—This species differs from all other *Metadorylas* species by its black coxae, trochanters, and femora, by the extremely large bases of the surstyli, and by parameres being almost straight dorsally with small subapical spines.

*Description*.—(Male only, female unknown.) Body length 3.0 mm; wings 3.6 mm. Antennal scape and pedicel brown, flagellum yellow. Frons with a narrow, dark median ridge. Thorax dark brown to black, brown pruinose dorsally and gray pruinose laterally on mesopleuron and postnotum. Postpronotal lobe yellow. Legs with coxae, trochanters black; femora black with base and apex yellow; tibiae and tarsi yellow, except fifth tarsomeres brown. Profemora and mesofemora with short ventral ctenidia. Protibiae and mesotibiae with posteroventral bristle. Wings hyaline, except for brown pterostigma; crossvein r-m located near basal one-third of the cell dm; last section of vein  $M_1$  almost straight. Halteres yellow. Abdomen dark brown to black, brown pruinose, except tergite I dorsally and laterally and tergites II–V posterolaterally with gray pruinosity. Terminalia (Fig. 34) with large membranous area apically on syntergosternite VIII; surstyli asymmetrical, in lateral view as in Fig. 35; parameres and aedeagus as in Fig. 36. Parameres without dorsal processes but with small subapical spines.

*Type Material*.—Holotype: male (CMNH). Verbatim text of three pin labels: "DOMINICAN REPUBLIC: Pedernales. 23.5 km N Cabo Rojo, 18–06N 71–38W 540 m" / "19–25 July 1990, L. Masner, deciduous forest, intercept trap" / "HOLOTYPE *Metadorylas antillensis* Rafael [red paper]." Paratype: one male, topotypic, 19–21 July 1990 (INPA).

*Etymology*.—The species name refers to the Antilles.

*Remarks*.—The male surstyli of *Metadorylas antillensis* are superficially similar to *M. spinosus* (Hardy). It can be separated from that species by the key characters presented above and by the parameres which possess small dorsal subapical spines instead of the dorsal processes present in *M. spinosus*.

*Metadorylas cressoni* (Johnson)

*Pipunculus cressoni* Johnson, 1919:433.

*Remarks*.—Three specimens (two in poor condition, sex undetermined) may be referred to *M. cressoni*. The male terminalia are identical to those figured of the holotype (Rafael, 1990b). This species has been recorded previously only from the Bahamas (New Providence) and Jamaica.

*Specimens Examined*.—DOMINICAN REPUBLIC: Dajabón, Mariano Cestero, 13 Aug. 1980, 650



m, A. Norrbom (one specimen); 14 Aug. 1980 (one male); Azua, Padre la Casa, 500 m, 18 Aug. 1980, A. Norrbom (one specimen).

*Metadorylas dominicensis* Scarbrough and Knutson

*Metadorylas dominicensis* Scarbrough and Knutson, 1989:531, fig. 11-15

*Remarks.*—One female with deep median groove on syntergosternite VII + VIII agrees with the description of *M. dominicensis* from Dominica. This is the first record of this species subsequent to its original description.

*Specimens Examined.*—DOMINICAN REPUBLIC: Pedernales, 1 km S Los Arroyos, 1125 m, 18-14N 71-45W, 18 Oct. 1991, R. Davidson, C. Young, S. Thompson, J. Rawlins, second growth forest (one female).

*Metadorylas pilosus* Rafael, new species

(Fig. 37-39)

*Diagnosis.*—This species differs from all other described *Metadorylas* species by its well-developed and densely haired outer gonopod, and by the outer surstylus being larger than the inner surstylus and having an apical sinus.

*Description.*—(Male only, female unknown.) Body length 2.9 mm; wings 3.2 mm. Antennae (Fig. 37) brown to black, flagellum acuminate. Thorax dark brown to black, brown pruinose on dorsum, gray on the sides. Postpronotal lobes and halteres yellow. Femora predominantly black, profemur without ventral ctenidia; tibiae yellow with small posteroventral bristle on protibiae and mesotibiae. Wings hyaline with brown pterostigma; last section of vein  $M_1$  slightly curved; vein  $CuA_1$  as long as vein dm-cu. Abdomen dark brown to black, brown pruinose, except tergites II-V laterally and posterolaterally with gray pruinosity. Terminalia: syntergosternite VIII with apical membranous area (Fig. 38); outer surstylus with apical sinus and larger than inner surstylus. Parameres and aedeagus as in Fig. 39. Parameres simple; outer gonopod curved, long, thin, and densely haired.

*Type Material.*—Holotype: male (CMNH). Verbatim text of three pin labels: "DOMINICAN REPUBLIC: Pedernales. 23.5 km N Cabo Rojo. 18-06N 71-38W 540 m" / "19-21 July 1990, L. Masner, J. Rawlins, C. Young, Deciduous forest, intercept trap" / "HOLOTYPE *Metadorylas pilosus* Rafael [red paper]." Paratype: one male, topotypic, 19-25 July 1990 (INPA).

*Etymology.*—The specific name refers to the densely haired gonopod in male terminalia (from Latin *pilus* = hair).

*Remarks.*—*Metadorylas pilosus* is the third known species with outer gonopod densely haired. The other two species are *M. disgregus* (Hardy) described from Argentina and *M. graciosus* (Kertész) described from Paraguay. *Metadorylas pilosus* can be separated from both species by the following characters of the terminalia: outer surstylus larger than inner one; parameres simple; outer gonopod thinner.

Genus *Eudorylas* Aczél

*Eudorylas* is a cosmopolitan genus, and it occurs from Canada to Chile in the New World.

Key to Species of *Eudorylas* from the West Indies

- 1 Postpronotal lobes dark brown to black, concolorous with scutum . . . . . 2
- 1' Postpronotal lobes yellow, scutum dark brown to black . . . . . 3
- 2(1) Legs predominantly yellow, except coxae and distal tarsomeres black and brown respec-

- tively; crossvein r-m placed at basal fourth of cell dm (Mexico, Costa Rica, St. Vincent) . . . . . *E. willistoni* (Kertész)
- 2' Legs predominantly black; crossvein r-m placed near middle of cell dm (Dominican Republic) . . . . . *E. curvicaudatus*, new species
- 3(1') Combined length of third and fourth costal section longer than fifth; crossvein r-m placed near middle of cell dm; last section of vein  $M_1$  slightly curved; membranous area of the male terminalia extended (Fig. 46) (Dominican Republic) . . . . . *E. dominicanensis*, new species
- 3' Combined length of third and fourth costal section shorter than fifth; crossvein r-m placed near basal third of cell dm; last section of vein  $M_1$  straight; membranous area of the male terminalia not extended (Puerto Rico, Peru, Brazil) . . . . . *E. regalis* (Curran)

*Eudorylas dominicanensis* Rafael, **new species**

(Fig. 40–43)

*Diagnosis.*—Antennae dark brown to black; flagellum long and acuminate; legs predominantly black; mesopleuron gray pruinose; crossvein r-m placed near middle of cell dm; membranous area of the male terminalia extended.

*Description.*—(Male only, female unknown.) Body length 4.1 mm; wings 4.7 mm. Frons and face silvery gray pruinose. Antennae (Fig. 40) brown to black with flagellum long and acuminate. Thorax brown to black, brown pruinose dorsally, gray pruinose laterally. Postpronotal lobe yellow. Legs predominantly black with base and apex of the femora narrowly yellow, base and apex of the tibiae widely yellow and basal two to three tarsomeres yellow. All femora with short ventral ctenidia. Wings slightly infuscated; pterostigma brown; third costal section as long as fourth, both longer than fifth; crossvein r-m placed near middle of cell dm; last section of vein  $M_1$  slightly curved. Abdomen dark brown to black, brown pruinose dorsally, gray pruinose on tergite I and laterally on tergites II–V. Terminalia with syntergosternite about equal in length to tergite V and with extended down-curved membranous area. Surstyli asymmetrical (Fig. 41). Epandrium narrow. Parameres and aedeagus as in Fig. 42. Ejaculatory apodeme as in Fig. 43.

*Type Material.*—Holotype: male (CMNH). Verbatim text of three pin labels: “DOMINICAN REPUBLIC: Pedernales. 7 km NE Los Arroyos. 1870 m, 18–16N 71–44W” / “15 July 1990 L. Masner, C. Young, J. Rawlins, intercept trap” / “HOLOTYPE *Eudorylas dominicanensis* Rafael [red paper].”

*Etymology.*—The species name refers to the country Dominican Republic.

*Remarks.*—*Eudorylas dominicanensis* closely resembles *E. curvicaudatus* in the appearance of the male terminalia. It can be differentiated by the longer flagellum and by the less symmetrical surstyli in *E. dominicanensis*.

*Eudorylas curvicaudatus* Rafael, **new species**

(Fig. 44–48)

*Diagnosis.*—Antennae dark brown to black; flagellum short and acute; legs black; mesopleuron brown pruinose; crossvein r-m placed near middle of cell dm; membranous area of the male terminalia extended and down-curved distally.

*Description.*—(Male only, female unknown.) Body length 3.2 mm; wings 3.7 mm. Frons brown pruinose; face silvery gray pruinose. Antennae (Fig. 44) brown to black with flagellum short, acute, and yellowish under strong illumination. Thorax brown to black, dusted with brown pruinosity. Legs black, except apex of the femora and base of the tibiae narrowly yellow. All femora with short inconspicuous ventral ctenidia. Wings slightly infuscated; pterostigma brown; third costal section slightly longer than fourth; third and fourth sections combined slightly longer than the fifth section; crossvein r-m placed near middle of cell dm; last section of vein  $M_1$  curved. Abdomen (Fig. 45) dark brown to black, brown pruinose dorsally, light brown pruinose on tergite I and gray pruinose laterally on tergites II–V. Terminalia with syntergosternite about two-thirds length of the tergite V, with extended down-curved membranous area. Surstyli subsymmetrical (Fig. 46). Epandrium narrow. Parameres and aedeagus as in Fig. 47. Ejaculatory apodeme as in Fig. 48.

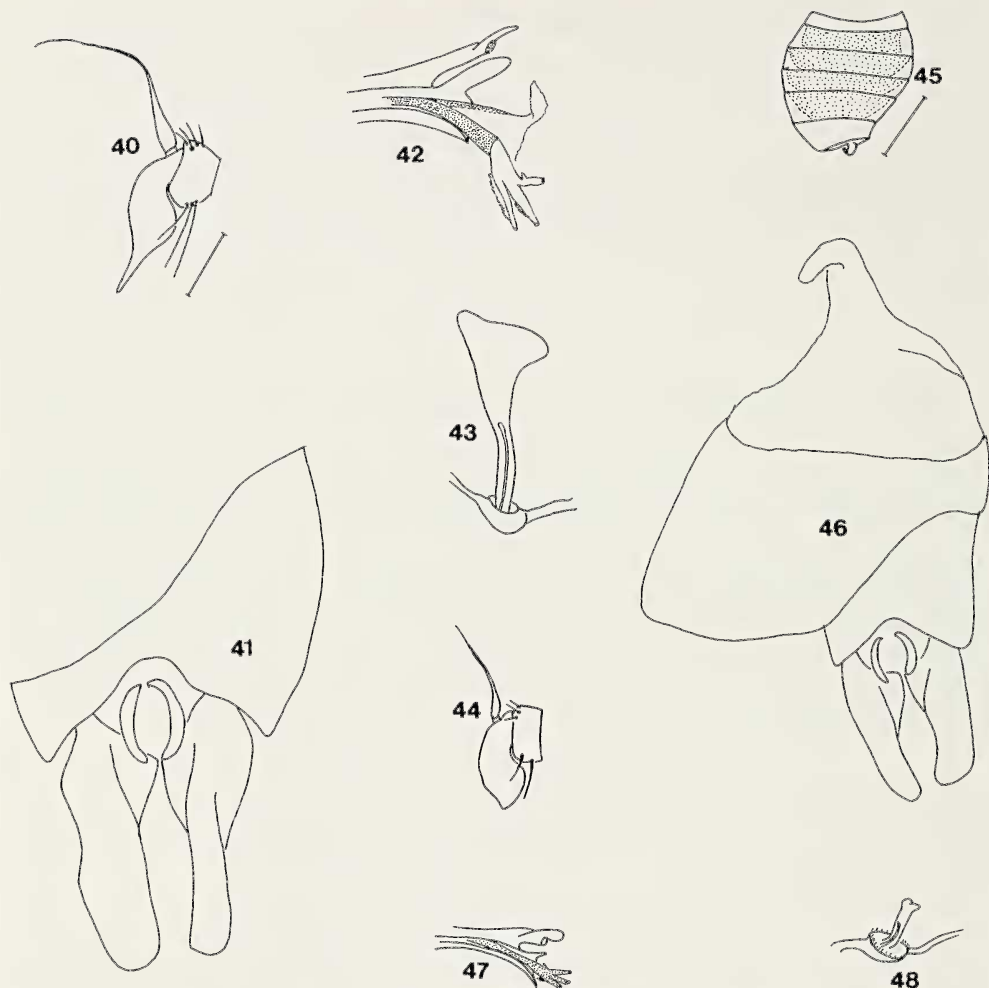


Fig. 40–48.—*Eudorylas* from the Dominican Republic. 40–43. *Eudorylas dominicanensis*, male: 40, antenna; 41, epandrium and surstyli; 42, parameres and aedeagus; 43, ejaculatory apodeme. 44–48. *Eudorylas curvicaudatus*, male: 44, antenna; 45, abdomen; 46, terminalia; 47, parameres and aedeagus; 48, ejaculatory apodeme. All figures to same scale as Fig. 40 (= 0.1 mm), except Fig. 45 (scale = 0.5 mm).

*Type Material*.—Holotype: male (CMNH). Verbatim text of three pin labels: “DOMINICAN REPUBLIC: Hato Mayor. Parque Los Haitises, 3 km W Cueva de Arena, 19–04N 69–29W” / “20 m, 7–9 July 1992 R. Davidson, J. Rawlins, S. Thompson, C. Young, mesic lowland forest” / “HOLOTYPE *Eudorylas curvicaudatus* Rafael [red paper].”

*Etymology*.—The specific name refers to the extended down-curved membranous area in male terminalia (from Latin *curvus* = curve, *caudatus* = having tail).

*Remarks*.—*Eudorylas curvicaudatus* differs from other Neotropical species by the terminalia with an extended, down-curved membranous area and by the sub-symmetrical surstyli.



*Eudorylas* spp.

*Remarks.*—Four female specimens representing three different species cannot be identified and were not associated with males.

*Specimens Examined.*—DOMINICAN REPUBLIC: Peravia, Arroyo Cañas, 650 m, 08 Aug. 1980, A. Norrbom (one female); Pedernales, 37 km N Cabo Rojo, 4 km E La Abeja, 18–10N 71–37W. 1440 m, 13–15 July 1987, R. Davidson, J. Rawlins (one female); Pedernales, 23.5 km N Cabo Rojo, 18–06N 71–38W, 540 m, 19–25 July 1990, L. Masner, J. Rawlins, C. Young, deciduous forest, intercept trap (one female); Pedernales, La Abeja, 38 km NNW Cabo Rojo, 18–09N 71–38W, 1250 m, 15 July 1987, J. Rawlins, R. Davidson (one female)

Genus *Tomosvaryella* Aczél

*Tomosvaryella* is a cosmopolitan genus and it has been recorded from Canada to Chile. Seven species have been reported from the West Indies, and six species were observed in this study. The excluded species is *T. polita* (Williston) described from St. Vincent. The original description was very brief and generalized and it fits all the described species from the West Indies. Since the type has been lost, no comparison can be conducted to verify the status of this species, therefore it has been excluded from the present study.

Key to Species of *Tomosvaryella* from the West Indies

- 1 Syntergosternite VIII symmetrical, subhemispherical; metatrochanters with short square-topped process densely white pubescent (USA, Mexico, Belize, Nicaragua, Costa Rica, Panama, Bahamas, Cuba, Puerto Rico, Jamaica, Colombia, Peru, Brazil, Chile) . . . . . *T. subvirescens* (Loew)
- 1' Syntergosternite VIII asymmetrical in dorsal view, compressed to right; metatrochanters not as above . . . . . 2
- 2(1') Metatrochanters with two spiniform ventral processes (USA, Mexico, Bahamas, Brazil) . . . . . *T. bidens* (Cresson)
- 2' Metatrochanters with only one ventral process . . . . . 3
- 3(2') Metatrochanters with long process, about as long as width of trochanters; surstyli with apex wider than base; parameres without dorsal spine (Mexico, Costa Rica, Cuba, Haiti, Dominican Republic, "Hispaniola," Jamaica, Dominica, St. Lucia) . . . . . *T. tuberculata* Hardy
- 3' Metatrochanters with short obtuse process or small inconspicuous ridge . . . . . 4
- 4(3') Metafemur with sparse long and slender bristles on posterior face; surstyli with apex as wide as base; parameres with one dorsal spine and with one branch of the aedeagus serrate (Mexico, Dominican Republic) . . . . . *T. mexicanensis* Ale-Rocha and Rafael
- 4' Metafemur with short bristles . . . . . 5
- 5(4') Surstyli rather simple with bristles on dorsal protuberance, more distinct in lateral view (Mexico, Cuba, Dominica, Colombia) . . . . . *T. scopulata* Hardy
- 5' Surstyli forcipate, distinctly larger at base, without bristles on dorsal protuberance (Puerto Rico, Dominica) . . . . . *T. spangleri* Scarbrough and Knutson

*Tomosvaryella tuberculata* Hardy

*Tomosvaryella tuberculata* Hardy, 1948a:11, fig. 7a–d.

*Remarks.*—This species is widespread across Central America and the West Indies, being recorded in Mexico, Costa Rica, Cuba, Dominica, Bahamas, Haiti, Jamaica (Scarbrough and Knutson, 1989; Ale-Rocha and Rafael, 1995) and now Dominican Republic and St. Lucia.

*Specimens Examined.*—DOMINICAN REPUBLIC: Azua, Padre la Casas, 500 m, 18 Aug. 1980, A. Norrbom (one male); Pedernales, 37 km N Cabo Rojo, 18–09N 71–35W, 1500 m, 11 July 1987,

R. Davidson, J. Rawlins (one female); Pedernales, 23.5 km N Cabo Rojo, 18–06N 71–38W, 540 m, 19–25 July 1990, L. Masner, J. Rawlins, C. Young, deciduous forest, intercept trap (one male, INPA). ST. LUCIA: Anse La Raye, Anse Galet, 1 km SSW Anse La Raye, 13–56N 61–03W, 50 m, 21–30 June 1991, J. E. Rawlins, S. A. Thompson (one male).

*Tomosvaryella mexicanensis* Ale-Rocha and Rafael

*Tomosvaryella mexicanensis* Ale-Rocha and Rafael, 1995:416, fig. 29–35.

*Remarks.*—This is the first record of this species subsequent to its original description from Mexico.

*Specimens Examined.*—DOMINICAN REPUBLIC: Azua, Padre la Casas, 500 m, 18 Aug. 1980, A. Norrbom (two males, CMNH; two males, INPA).

Genus *Elmohardyia* Rafael

*Elmohardyia* is a New World genus, better known in the Neotropical region through recent studies (Rafael, 1988*b*). This genus has not been recorded from the Dominican Republic, but two species have been previously recorded from Jamaica and Trinidad (Rafael, 1988*b*).

Key to Species of *Elmohardyia* from the West Indies

- 1 Tergite II predominantly gray pruinose; tergites III–V with gray pruinose spots visible in dorsal view; inner surstylus about four times longer than outer one (Jamaica, Costa Rica, Guyana) . . . . . *E. gowdeyi* (Curran)
- 1' Tergite II brown pruinose; only tergite V with gray pruinose spot visible on dorsal view; inner surstylus slightly longer than outer one (Trinidad, Brazil) . . . . . *E. trinidadensis* (Hardy)

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